REMARKS/ARGUMENTS

With the foregoing amendments, claims 1-2, 5-7, 9-10 and 13-15 are pending in the application. Favorable consideration is requested.

Claim 1 has been amended to incorporate the subject matter from claims 3 and 4 and by noting that the claim consists essentially of the stated processing steps, as supported by the specification, e.g., the Examples and original claims. In line with the Examiner's comments concerning the claim term "hot," it has been replaced with "heated" as supported by the Examples and to distinguish from ambient or refrigerated distilled water. Claims 3 and 4 have been cancelled without prejudice. Similarly, claim 9 has been amended to incorporate the subject matter from claims 11 and 12, and as supported by the specification, e.g., the Examples and the original claims. Claims 11 and 12 have been cancelled without prejudice. Claims 8 and 16 have also been cancelled without prejudice in an effort to move this case to allowance.

Turning to the Office Action, applicants note with appreciation the withdrawal of the previous prior art rejections. Applicants respond to the new rejections as follows.

Claims 1-8 and 16 stand rejected under Section 112, first paragraph, as allegedly failing to comply with the written description requirement. Although applicant does not agree with the rejection, the amended and cancelled claims are believed to moot this rejection.

Claims 1-16 stand rejected under Section 112, second paragraph, as allegedly being indefinite. Although applicant does not agree with the rejection, the amended and cancelled claims are believed to moot this rejection.

Claims 1-16 stand rejected under Section 102(b) as allegedly anticipated by JP '327. Applicants respectfully request the withdrawal of this rejection based on the following facts and information.

JP '327 disclosed a process for the production of itaconic acid, citraconic acid and derivatives using a X- or Y- type zeolite which may contain rare earth, Group IIIA, IVA, VB or VIIB metal ions. The specific example relied on by the Examiner teaches that the zeolite is first prepared by soaking in $CeCl_3$ solution for 2 days (**48 hours**), dried and is then heated at 350 degrees C for 4 hours. This is then directly packed into a quartz tube and treated with di-Me succinate vapor and gaseous H_2CO_3 to yield itaconic acid, citraconic acid, citraconic acid anhydride and unchanged ester with 93% H2CO3 reactivity.

As is evident from the foregoing description of the JP '327 process, the JP '327 process for synthesis of the catalyst differs substantially from the claimed process.

First, in the claimed invention, applicants' process utilizes a cation exchange step that takes place for only 4 to 8 hours. As is well recognized in the art, catalyst chemistry is notoriously unpredictable. Thus, the drastic change in the period of cation exchange greatly alters the catalyst process and the chemistry of the process. In this regard, the catalyst of the cited document is intended for preparation of itaconic acid, citraconic acid and derivatives. There is no disclosure or guidance in the cited document that the same catalyst, which is subjected to a 48 hour period of contacting, will work in selective adsorption of oxygen from air, or that it would work even for preparation of itaconic acid, citraconic acid and derivatives when the cation exchange step is limited to 4 to 8 hours.

Second, the heated catalyst is directly packed into a quartz column in the cited reference. In contrast, the present invention requires a step of cooling before use. Support can be found in the Examples as well as in claim 7 and claim 15. Again, the cited reference does not disclose this claimed feature.

Furthermore, the claimed "consisting essentially of" invention, as supported by the Examples, does not use lithium, potassium or calcium ions or the presence of clays and organic binders.

Thus, the cited reference fails to disclose at least one essential process step, i.e., the limited period of cation exchange of 4 to 8 hours, and its combined use with the other "consisting essentially of" steps in independent claims 1 and 9.

Claims 1-7 and 9-15 stand rejected under Section 102(b) as allegedly anticipated by the '836 patent. Applicants respectfully request the withdrawal of this rejection based on the following facts and information.

The '836 patent discloses a process for producing an ion-exchanged material (which includes zeolites) by first forming an ammonium ion exchanged material and then contacting the ammonium ion exchanged material with Group IA ions other than sodium and potassium, Group IB ions, Group IIB and Group IIB monovalent ions, and mixtures thereof. The patent specifically states that lithium, cesium and rubidum are **essential** in the zeolite catalyst.

Additionally, the '836 process requires a first step of contacting a zeolite with a source of ammonium ions and thereafter contacting the ammonium ion exchanged material with Group IA ions other than sodium and potassium, Group IB ions, Group IIB and Group IIB monovalent ions, and mixtures thereof. The replacement of ammonium ions with lithium ions is carried out at a temperature of 0 to 550 degrees C (Claim 13).

As is evident from the foregoing description of the '836 process, the '836 process of catalyst preparation differs substantially from that of the claimed invention. In the '836 process, and unlike the claimed process, when a sodium or potassium containing ion exchanged material is used, it is first subjected to ion exchange with ammonium and thereafter with the Group IA

ions other than sodium and potassium, Group IB ions, Group IIB and Group IIB monovalent ions, and mixtures thereof. The step of ammonium ion exchange into the zeolite material is a **critical and essential** part and is unlike the claimed invention.

In this regard, the '836 patent does not disclose (or even suggest) the specific process and requisite processing steps of the claimed invention. The important features involved in the claimed invention are the formation of oxygen selective species inside the zeolite cavities (i) by exchanging with lanthanide aqueous solution and in addition to cation exchange by forming non-stoichiometric oxide of cerium/europium/gadolinium which can selectively interact with oxygen molecules. The process provides a new technique of introducing a sorbate specific metal oxide in the micropores of the zeolites for developing new adsorbents. The non-stochiometric oxides of the claimed rare earths like cerium and europium react with oxygen in a reversible manner and reversibly changes the oxidation state thus acting as chemisorption-assisted adsorption. The observation of high heats of adsorption values are also indicative of chemisorption type interactions with oxygen molecules.

Finally, in connection with the Examiner's statements that heating is equivalent to 'calcination,' applicants do not agree because there is a definite distinction. Although calcination involves heating, all heating does not include calcination. Calcination as a chemical step comprises heating a substance to a high temperature but below its melting or fusing point to cause loss of moisture, reduction or oxidation, etc. As has been pointed out in the earlier responses filed in this application, it would be incorrect to equate heating with calcination. Various U.S. patents support this position, which is well known in the art.

For at least the foregoing reasons, the claimed invention and its underlieing methods of operation are not disclosed in the cited reference. Thus, applicants request the withdrawal of the rejection.

In view of the foregoing amendments and remarks, applicants submit that the application is in condition for allowance. A notice to that effect is earnestly solicited.

If the Examiner has any questions concerning this case or suggestions for advancing prosecution without the necessity for another Office Action, the Examiner is encouraged to contact the undersigned at 703-816-4009.

Respectfully submitted,

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